

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/527,931 Confirmation No. 3919
Applicant : Mathieu et al.
Filed : March 17, 2000
TC/A.U. : 3729
Examiner : Rick K. Chang

Docket No. : P114-US

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT**To Whom It May Concern:**

Listed on an attached Form PTO/SB/08A is information known to applicant(s).

Applicants ask that the attached Form PTO/SB/08A be initialed and returned in accordance with MPEP §609. This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, material to patentability as defined in §1.56.

☐ This statement qualifies under 37 C.F.R. §1.97, subsection (b) because (check all that apply):

- ☐ It is being filed within 3 months of the application filing date (other than the filing date of a continued prosecution application under §1.53(d)); or
- ☐ It is being filed within 3 months of entry of a national stage; or
- ☐ It is being filed before the mail date of the first Office Action on the merits; or
- ☐ It is being filed before the mail date of the first Office Action after the filing of a request for continued examination under §1.114.

- ☒ 37 C.F.R. §1.97(c). If this statement is being filed three months after the filing date of a national application or entry of the national stage in an international application and the mailing date of a first Office action on the merits but before the mailing date of the earlier of a final office action, a notice of allowance, or an action that otherwise closes prosecution in the application, then:

- ☐ a statement as specified in §1.97(e) is provided below; or
☒ a fee of \$180.00 as set forth in §1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.

- ☐ 37 C.F.R. §1.97(d). If this statement is being filed after the mailing date of the earlier of a final office action under §1.113, a notice of allowance under §1.311, or an action that otherwise closes prosecution in the application, but before payment of the issue fee, then:

a statement as specified in §1.97(e) is provided below; and
a fee of \$180.00 as set forth in §1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.

Fee:

- ☐ No fee is due.
☒ A check that includes \$180.00 for the above-identified fee(s) is enclosed.
☐ This statement is filed as one part of a multi-part submission. The fee for the complete submission was included in an electronically filed submission on _____. Applicants request the foregoing fee be accepted for this statement. (See OG Notice dated 17 September 2002.)

Respectfully submitted,

Date: May 16, 2006

By 
N. Kenneth Burraston
Reg. No. 39,923

Kirton & McConkie
1800 Eagle Gate Tower
60 East South Temple
P.O. Box 45120
Salt Lake City, Utah 84111-1004
Telephone: (801) 323-5934
Fax: (801) 321-4893

Modified Form PTO/SB/08A

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				<i>Complete if Known</i>	
				Application Number	09/527,931
				Filing Date	March 17, 2000
				First Named Inventor	Mathieu et al.
				Group Art Unit	3729
				Examiner Name	Rick K. Chang
Sheet	1	of	1	Attorney Docket No.	P114-US

U.S. PUBLISHED PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant	Publ./Issue Date	Related ⁶	Copy Enclosed
		Number	Kind Code ²				
	1.	5861759		Bialobrodski et al.	1/19/1999		Yes

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Name of Patentee or Applicant	Publ. Date	T ⁶	Copy Enclosed
		Office ³	Number ⁴ Kind Code ⁵				
	2.	JP	04-273458	Uchino et al.	9/29/1992	x	Yes

Examiner Signature	Date Considered
-----------------------	--------------------

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached

** Reference cited in parent application US Serial No. ___, 37 CFR § 1.98(d)

*** Pre-OG Notice By Deputy Commissioner Stephen G. Kunin dated July 11, 2003 waiving the requirement to file copies of US patent publications in applications filed after June 30, 2003.

& Notice dated October 19, 2004 by Deputy Commissioner for Patent Examination Policy waiving requirement to file copies of pending US patent applications if the applications are stored in the USPTO's IFW system.

Commonly owned US patent or application whose subject matter may be related to the subject matter of the instance patent application



US005861759A

United States Patent [19][11] **Patent Number:** **5,861,759****Bialobrodski et al.**[45] **Date of Patent:** **Jan. 19, 1999**[54] **AUTOMATIC PROBE CARD
PLANARIZATION SYSTEM**[75] **Inventors:** **Martian R. Bialobrodski; Marius R. Lapan**, both of Danville, Calif.[73] **Assignee:** **Tokyo Electron Limited, Japan**[21] **Appl. No.:** **791,767**[22] **Filed:** **Jan. 29, 1997**[51] **Int. Cl.:** **G01B 11/00**[52] **U.S. Cl.:** **324/758; 356/375**[58] **Field of Search:** **324/758; 356/375**[56] **References Cited****U.S. PATENT DOCUMENTS**

4,751,457	6/1988	Venendal	324/758
4,786,867	11/1988	Yamato	324/758
4,864,227	9/1989	Sato	324/758
4,929,893	5/1990	Sato et al.	324/758
4,934,064	6/1990	Yamaguchi et al.	324/758
5,065,092	11/1991	Sigler	324/758
5,091,692	2/1992	Ohno et al.	324/758
5,394,100	2/1995	Boller et al.	324/758
5,410,259	4/1995	Pujtham et al.	324/758
5,423,579	6/1995	Yamaguchi	324/758
5,510,723	4/1996	Canella et al.	324/758
5,642,056	6/1997	Nahajima et al.	324/758

OTHER PUBLICATIONS

Patent Abstracts of Japan (08162509 A) Jun. 21, 1996
 "Probe Device and Probing Method" Hiroshi

Primary Examiner—Thomas P. Noland

Attorney, Agent, or Firm—Allston L. Jones[57] **ABSTRACT**

The present invention provides an automatic probe card planarization system and method to planarize a first plane defined by a plurality of contact points of a probe card relative to a second plane defined by a top surface of a wafer supported on a prober, with the probe card intermediate the wafer and a tester with the probe card interfacing electrically with the tester to test the performance of the wafer. The planarization is performed by interfacing the probe card to the wafer by individually interfacing three points fixed points on the tester with three points on the prober. On of the points on the prober being fixed, while the other two are height variable as a result of calculations by a processor. Additionally, a camera is used to measure the height of at least three selected contact points on the probe card relative to the plane of wafer, from which the position of the first plane relative to said second plane is calculated. With that information and the geometry of the prober and tester, the height variations necessary for the two height variable points on the prober are calculated and the height adjustments made to planarize the first plane relative to the second plane. Alternatively, the height adjustments can be included in the tester, or one in each of the tester and the prober.

11 Claims, 6 Drawing Sheets